

Vancomycin-intermediate *Staphylococcus aureus* (VISA) and Vancomycin-resistant *Staphylococcus aureus* (VRSA) Infections

What are Vancomycin-intermediate *Staphylococcus aureus* (VISA) and Vancomycin-resistant *Staphylococcus aureus* (VRSA)?

Staphylococcus aureus (“staph”) is a common type of bacteria (germ) that is often found on the skin and in the nose of healthy people. It can also grow in wounds or other sites in the body, sometimes causing an infection.

Antibiotics are drugs used to treat infections caused by bacteria. Sometimes bacteria can change so that particular drugs will no longer kill the germs. When this happens, these germs are called “antibiotic resistant”. Over time, staph bacteria have become difficult to treat with certain types of antibiotics, including vancomycin. To measure the amount of resistance staph has to vancomycin, laboratories test how much vancomycin it takes to prevent the growth of staph. If there is some resistance, it is called vancomycin-intermediate *S. aureus* (VISA). If there is a lot of resistance, it is called vancomycin-resistant *S. aureus* (VRSA).

Who gets VISA/VRSA?

VISA/VRSA is extremely rare. People with the following conditions are more at risk for VISA/VRSA infection:

- Underlying health conditions (such as diabetes or kidney disease)
- Previous infections with methicillin-resistant *Staphylococcus aureus* (MRSA)
- Recent hospitalizations
- Tubes going into the body (such as a catheter)
- Recent use of vancomycin or other antibiotics

How is VISA/VRSA spread?

Staph bacteria (including VISA/VRSA) are most often spread by direct person-to-person contact, usually on hands. Staph may also be spread by contact with contaminated items (e.g., bandages, medical equipment). Contaminated environmental surfaces may also play a role.

What are the symptoms of VISA/VRSA infection?

Many people carry staph bacteria on their skin or in their bodies without any symptoms. This is called being “colonized”. A person may be colonized for a long time before getting sick or may never get sick.

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VISA or VRSA infections can cause a range of symptoms including skin infections, abscesses, pneumonia, and infection of the heart valves, bones, or blood.

How soon after exposure do symptoms appear?

In most situations, exposure to VISA/VRSA does not lead to illness. The person might carry the VISA or VRSA on his skin or in his nose, but not get sick at all, or might get sick from the VISA/VRSA days, weeks, or months later.

How is VISA/VRSA diagnosed?

If VISA/VRSA is suspected, sample will be taken from the infection site (e.g., the skin, blood, or sputum) and sent to the laboratory for testing. If staph is isolated, more laboratory tests will be run to determine which antibiotics will be effective for treating the infection. A diagnosis of VISA or VRSA will be made depending on the amount of vancomycin required to kill the staph bacteria.

What is the treatment for VISA/VRSA?

Several drugs that are effective in treating infections with VISA/VRSA have been approved by the Food and Drug Administration (FDA). Your physician will decide which treatment is best, often in consultation with an infectious disease specialist.

How is VISA/VRSA prevented?

Use of good infection prevention practices (such as wearing gloves when caring for patients with VISA/VRSA, and frequent hand hygiene by healthcare workers) can limit the spread of VISA/VRSA in healthcare settings. Patients with VISA/VRSA should keep their hands clean and follow any other instructions given by their healthcare providers. Friends or family members visiting a hospitalized patient with VISA/VRSA should follow the hospital's recommended precautions.

When outside of a healthcare setting, care givers and family members who have close physical contact with people with VISA/VRSA should keep their hands clean by washing them thoroughly with soap and water or using an alcohol-based hand sanitizer, and avoid contact with the person's wounds or material (such as a bandage) that has touched the wound.

How can I get more information about VISA/VRSA?

- 1) If you have concerns about VISA/VRSA or think you may have an infection caused by VISA/VRSA, contact your healthcare provider.
- 2) Call your local health department. A directory of local health departments is located at <http://www.vdh.virginia.gov/LHD/index.htm>.
- 3) Visit the Centers for Disease Control and Prevention website at http://www.cdc.gov/HAI/organisms/visa_vrsa/visa_vrsa.html.